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yards away, and if badly frightened, only thrusting its bill out far enough to take in a supply of air; if the water is not perfectly smooth, it is useless to look for them. Its food is chiefly fish, which it catches beneath the water, where it flies, with the aid of its feet, as swiftly as in the air, rarely even at such times coming above the surface with more than the head and neck, which is so long, slim, and wavy in motion that it is oftener taken for a snake than a bird. When not fishing or apprehensive of danger, they ride up lightly on the water. I have since met with the birds all along the Gulf coast, and on the lagoons, and up the rivers that I visited in Central America.

The nests of the birds are placed on bushes, or branches of trees overhanging the water, varying in height from four to thirty feet. They are quite bulky, and made of sticks, and lined with leaves, rootlets, moss, etc.

Eggs, two to four; 2.12x1.34; pale bluish green, with more or less of a white calcareous covering; in form, oblong oval to ovate. A set of two eggs, taken April 28th, 1882, at the mouth of the Guadalupe river, Texas, from a nest made of sticks and green twigs in leaf, in a willow tree, eleven feet from the ground, are in dimensions 2.20x1.66, 2.10x1.34.

THE DOUBLE-CRESTED CORMORANT.

(*Phalacrocorax dilophus* Sw. and Rich.)

BY N. S. GOSS.

In Kansas, migratory; not uncommon. Arrive the last of March to first of April. To be looked for in the old, deep channels of the rivers, in the low-timbered lands. Return in October.

Habitat, northeastern North America, south in winter to the Gulf coast; breeding from the Bay of Fundy northward and westward to Manitoba.

The birds are abundant on the northeast coast, decreasing in numbers westward to the Rocky Mountains. They have been reported west of the Rockies, and breeding there, but the specimens taken on the Pacific side prove to be an intermediate race between this species and *albociliatus*. The birds subsist chiefly upon fish, which they capture by diving and pursuing beneath the water with a speed that the swiftest of the finny tribe seldom escape, coming to the surface with their capture, tossing the same in the air and catching it head first as it falls, so that the fins will not prevent its passage into the stomach. The throat readily expands, and enables them to swallow fishes larger than the neck in its normal condition. I have often noticed the birds, when resting upon a log or perched upon a limb over the water, suddenly drop and disappear beneath its surface at the sight of a fish—catching it, however, in a fair chase, and not, like the gannet or kingfisher, by plunging upon their prey. All the birds of this family are voracious eaters, and the craving for food makes them active hunters, and they are successfully used in many places by fishermen, who tie a string around their necks to prevent their swallowing the catch. The Chinese, especially, rear and train the birds upon their boats for fishers, with great success.

LeConte says: "To this end, they are educated as men rear up spaniels or hawks, and one man can easily manage an hundred. The fisher carries them out into the lake, perched on the gunwale of his boat, where they continue tranquil, and expecting his orders with patience. When arrived at the proper place, at the first signal given, each flies a different way to fulfill the task assigned it. It is very pleasant on this occasion, to behold with what sagacity they portion out the lake or canal where they are upon duty. They hunt about, they plunge, they rise an hundred

times to the surface, until they have at last found their prey. They then seize it with their beak by the middle, and carry it without fail to their master. When the fish is too large, they then give each other mutual assistance: one seizes it by the head, the other by the tail, and in this manner carry it to the boat together. There the boatman stretches out one of his long oars, on which they perch, and being delivered of their burden, they fly off to pursue their sport. When they are wearied, he lets them rest for a while; but they are never fed till their work is over. In this manner they supply a very plentiful table; but still their natural gluttony cannot be reclaimed even by education. They have always, while they fish, the same string fastened round their throats, to prevent them from devouring their prey, as otherwise they would at once satiate themselves, and discontinue the pursuit the moment they had filled their bellies."

The birds breed in communities, and where the ground or rocks will admit, their nests are placed closely together. On the last of July, 1880, I found the birds breeding in the Gulf of St. Lawrence, on the sides of the cliffs on Bonaventure Isle, and on the top of Perce Rock. The latter cannot be climbed, and nearly all the nests upon the isle were beyond reach; those examined, however, had young birds from half to nearly full grown, and hundreds of little fellows could be seen either upon their nests or standing near by upon the rock. The birds are very filthy, and the stench about their breeding-grounds sickening. Their nests are made of sticks, moss from the rocks, and sea-weed. Eggs, three or four—2.50x1.56; pale bluish-green, coated with a white chalky substance, but more or less stained in their dirty nests; in form, elongate ovate.

ADDITIONS TO THE CATALOGUE OF THE BIRDS OF KANSAS—WITH
NOTES IN REGARD TO THEIR HABITS, ETC.

BY N. S. GOSS.

THE WESTERN GREBE.

(*Aechmophorus occidentalis* Lawr.)

Habitat, western North America, eastward to Manitoba; accidental in Kansas.

For this addition to our list, we are indebted to Prof. F. H. Snow, who reports that a young male was killed November 3, 1887, on the Kansas river, at Lawrence. The birds are quite common on the northwestern part of the continent; breeding in reeds, ponds and lakes, east to northern Dakota and Manitoba; wintering along the Pacific coast south into Lower California; but this capture east of the Rocky Mountains is the first mention that I can find of their appearance south of their breeding-grounds. I have noticed this large species at San Diego several times; and in the winter and early spring of 1882 I had a good opportunity to observe them on the waters of Puget Sound. The birds ride the water lightly, and their silky plumage, slender build, long, waving necks and graceful carriage can but attract the attention of the most indifferent of observers. It ranks high among the water birds, and is, by right, the queen of the family. Like all of the race, they are expert swimmers and divers, and can quietly sink out of sight in the water, without an apparent motion; but their natural mode of diving is to spring with a stroke of their feet, almost clearing the water, and disappearing about three feet from the starting-point. They are at home on the waves, and it is almost impossible to force the birds to take wing; but when in the air fly with great rapidity, with neck and feet stretched out to their full extent, and in alighting, often do not attempt to slacken their speed, but strike the water with partially closed wings, with a force that carries them on the surface from twenty to forty feet.